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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,941	03/13/2001	Koichi Ikeshima	WATK:210	9068

7590 04/20/2005

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EXAMINER
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DICUS, TAMRA

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/803,941

Applicant(s)

IKESHIMA, KOICHI

Examiner

Tamra L. Dicus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

The RCE is acknowledged. The 112 first paragraph is withdrawn due to Applicant's arguments that one skilled in the art knows how to apply coatings in ceramic honeycomb art.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Examiner believes that Claim 2 does not have proper support in the original specification as filed because the specification does not provide any teaching or discussion on an inside partition wall portion of the same or different material (the specification states the outer wall has this description on the bottom of page 4 to page 5).

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

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has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-2 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5629067 to Kotani.

Kotani teaches a ceramic honeycomb structural body having an outer portion and center portion comprising cells, where the inner portion of the ceramic honeycomb structural body contains cordierite that is dried and fired, (col. 4, lines 55-65) completely filling in the outer circumferential wall portion. See Figures 4 and 5. The same radial direction is taught in col. 3, line 30-col. 4, line 25. Since the materials and process used are the same, the characteristics of claim 1 would be expected to be the same absent any evidence to the contrary. Kotani teaches a ceramic honeycomb structure body comprising cells (through-holes surrounded by partition walls) and an outer wall portion (see Fig. 5), where both the inner and outer walls are of crystalline cordierite having the same thermal expansion (see col. 7, lines 15-37). Kotani further teaches an outer coating formed on the outer surface of the body to reduce cells from cracking (see col. 2, lines 28-38). Kotani discloses the outer wall being thicker than the inner wall and the number of cells per unit area requirements of instant claims 4-5 in Example 1, Figures 4-5, and col. 6, lines 60+. At col. 8, lines 38-50, Kotani explains the outer coating serves as a reinforcing layer to yield excellent heat and thermal shock resistance. The outer circumferential wall is obtainable by firing a layer of raw material applied to a circumference of the ceramic honeycomb structure (col. 7, lines 15-20 and col. 8, line 36). The phrase "so that when the structure is cooled from the firing temperature, compression is applied to the inside partition wall from the outer...wall" is language that suggests or makes optional but does not require steps to be

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performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. See MPEP 2106.

Regarding claim 2, Kotani further teaches a honeycomb structure body where the inner wall portion of the honeycomb body structure is the same (cordierite ceramic) or different (ceramic fibers and cordierite) material from the outer circumferential wall portion (see col. 3, line 40-col. 4, lines 25 and lines 54-56).

Regarding claim 6, at col. 2, lines 38+, an open frontal area of 86% or more is shown in Figure 1.

Claims 1-3 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,060,148 to Matsubara et al.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Matsubara teaches a ceramic honeycomb structural body having an outer portion and center portion comprising cells, where the inner portion of the ceramic honeycomb structural body contains cordierite that is dried and fired, (col. 4, lines 5-10 and col. 6, lines 12-15 and 65-68) completely filling in the outer circumferential wall portion. See Figures 1 and 1b. Matsubara teaches a ceramic honeycomb structure body comprising cells (through-holes surrounded by partition walls) and an outer wall portion (see Fig. 1b and Fig. 3), where both the

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inner and outer walls are of crystalline cordierite, the same thermal expansion coefficient is inherent. Since the materials and process used are the same, the characteristics of claim 1 would be expected to be the same absent any evidence to the contrary. Matsubara discloses the outer wall being thicker than the inner wall requirements of instant claims 3 and 5 in Tables 1 and 2, and col. 4, lines 60-68 – col. 7, lines 1-60, col. 11, lines 60-col. 12, line 55). The outer circumferential wall is obtainable by firing a layer of raw material applied to a circumference of the ceramic honeycomb structure (col. 8, lines 47-60, electric furnace at maximum temperature). The phrase “so that when the structure is cooled from the firing temperature, compression is applied to the inside partition wall from the outer...wall” is language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. See MPEP 2106. Moreover, Matsubara teaches the compression applied to the inside wall from the outside wall (col. 4, lines 32-40).

Regarding claim 2, Matsubara further teaches a honeycomb structure body where the inner wall portion of the honeycomb body structure is the same (cordierite ceramic) or different (ceramic fibers and cordierite) material from the outer circumferential wall portion (see col. 3, line 40-col. 4, lines 25 and lines 54-56).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,629,067 to Kotani.

5. Kotani essentially teaches the claimed invention. Regarding instant claim 7, while Kotani does not teach the specific value of bulk density being  $0.26 \text{ g/cm}^3$  or less, Kotani does teach the wall thickness is varied to gain desired bulk density at col. 1, lines 25-34 and col. 2, lines 5-7 in order to reduce the heat capacity and effectively control exhaust emissions thereby improving the overall efficiency of a catalytic converter. Therefore, bulk density is an optimizable feature as taught by Kotani. It would be obvious to a person having ordinary skill in the art to modify the honeycomb structure taught by Kotani to include the bulk density  $0.26 \text{ g/cm}^3$  or less because Kotani teaches the wall thickness is varied to gain desired bulk density at col. 1, lines 25-34 and col. 2, lines 5-7 in order to reduce the heat capacity and effectively control exhaust emissions thereby improving the overall efficiency of a catalytic converter.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,629,067 to Kotani and further in view of USPN 5,346,722 to Beauseigneur et al.

Kotani substantially discloses the claimed invention except for a partition wall thickness of less than 0.1 mm. Beauseigneur discloses several examples of honeycomb structures having a range of the numbers of cells per unit area values and typical wall thickness requirements of claims 3-5 in catalytic converter applications at col. 3, lines 50-60. It would be obvious to a person having ordinary skill in the art to modify the honeycomb structure taught by Kotani to include the desired requirements of Beauseigneur to produce a desired honeycomb structure that exhibits efficient extruder or flow rates.

***Response to Argument***

Applicant's arguments filed 02-01-05 have been fully considered but they are not persuasive.

Applicant argues the claim 1 now refers to compression applied from the outside, however, Kotani will inherently perform in the same manner. The amended language is suggestive and does not limit the claim because Kotani still teaches the same materials and same stresses applied, which is considered equivalent to applying compression.

Matsuraba is also used to teach the same structure and compression.

Beauseigneur is still used to teach the exact same materials involved, a honeycomb structure and an alumina/catalytic coating on the outside and fired.

***Conclusion***

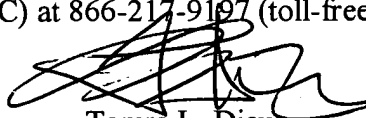
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.




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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tamra L. Dicus  
Examiner  
Art Unit 1774

04/14/05



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SUPERVISORY PATENT EXAMINER 4/18/05  
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